

REMARKS

Claim 1 is rejected as obvious under Section 103(a) over a combination of Rudd US Publication 2004/0003927 and Brissette USP 6,698,076. The Examiner refers to the base pipe 14 and the filter layer 22 in Rudd and to paragraphs 51 and 72 out of context. Paragraph 51 talks of a filter element that is bigger in inside diameter than the base pipe 14 and is deformed onto the base pipe. The statements in paragraph 51 need to be put into context of the rest of the reference where the filter layer has one or more extendable layers (paragraph 21) where the extendable portion is welded or sintered to the base pipe (paragraph 25,64). The base pipe is expanded as stated in paragraph 72 but that is done downhole after it is constructed not on the surface to manufacture the screen assembly. The extendable layers 28 can flex against the base pipe and are put there to prevent stress to the screen portion 22. In the preferred design the filter assembly 22 is put on a dummy mandrel to enlarge its internal dimension so as to allow insertion of the base pipe 14 and the contraction of the extendable layers 28 onto the base pipe (paragraph 67). If the filter assembly is larger than the base pipe then what paragraph 51 envisions is crimping the extendable layers 28 onto the base pipe 14 and spot welding or sintering them. Every method in Rudd is including the one in paragraph 67 includes welding something to finish the assembly. In the version in paragraph 67 the outer tube 18 is welded to the base pipe 14 and holds the screen portion 22 to the base pipe. The method of claim 1 produces a screen without welding.

The Examiner admits that Rudd does not expand the base pipe to manufacture the screen assembly and then cites the Brissette reference for a telescoping two piece drive shaft for the concept that it shows expanding an inner portion 12 while it is inside an outer portion 14. The thing is that both pieces are pushed into a die 38 to corrugate them and to prevent relative rotation. There is a clearance with a filler material to allow relative axial movement (column 3 lines 7-40). According to the Examiner taking rounded tubes 12 and 14 that are part of a driveshaft assembly and overlapping them in a die to turn them into rotationally locked but axially relatively movable because of a clearance between them suggests that Rudd, which relates to downhole screens, can obviously have its method varied to teach what is in claim 1. How can this be? Claim 1 attaches a base pipe to a screen by expanding it to manufacture the screen. Brissette teaches expansion from within but leaving a gap to the outer member, a condition that would make any Rudd screen inoperative. This is even assuming that there is any

reason for a person skilled in the art of making downhole screens would look to automotive telescoping drive shafts for suggestions on how to make a better screen. If ever there were non-analogous arts, they would be downhole screen manufacturing techniques and telescoping drive shaft fabrication techniques. Then there is the fact that Rudd uses spot welding and sintering and Brissette expands and leaves gaps so that even if the Brissette technique was combined with Rudd the gaps would have to be sealed with more welding. Claim 1 is a manufacturing technique that avoids welding and produces an assembled screen. Claim 1 is far from obvious over this combination.

Claim 10 a former dependent claim has been reworded for greater clarity without changing its scope. It is rejected as obvious over the same references as claim 1. It carries the basics of claim 1 but it further has a negative limitation as to how the screen and the base pipe are not connected where claim 1 just states that they are connected with base pipe expansion. It also specifically mentions that an interference fit is created from the base pipe expansion and that the assembled screen is expanded downhole. Applicant relies on the claim 1 argument which also demonstrates that the common subject matter standing alone in these two claims makes both of them unobvious over this combination of Rudd and Brissette.

Claim 1 is also rejected as obvious combining Broome USP 6,305,468 again with the telescoping drive shaft of Brissette. Broome was written by the same attorney Steve Rosenblatt that is preparing this response. Broome makes a subassembly with a filter layer and an outer shroud by moving them through a die when assembled to each other. He then sticks the base pipe into the subassembly and welds them together at 38.

Claim 1 expands the inserted base pipe into the filter layer to join them. Broome does not do this and closes the gap to the base pipe with a continuous weld. Brissette leaves a gap after expanding 12 to the outer tubular 14. Either way, there will be welding needed to close the gap. Claim 1 teaches removal of an assembly gap with expansion. Claim 1 is hardly obvious over Broome with Brissette.

Claim 15 is rejected as obvious under Section 103(a) in view of Layne USP 1,854,517. In this patent the screen 20 is heated and then placed over the base pipe and allowed to shrink onto the ribs 15 which the Examiner calls the “material” of claim 15. However claim 15 requires the material to bind the filter material to the base pipe. In Layne the ribs do nothing but provide a

travel stop for the cooling filter element 20. Even after cooling the filter element 20 has to be welded at 31 to seal the ends. In claim 15 the heat is applied to the material on the base pipe and the heat applied is what energizes the material to adhere the filter element to the base pipe. Shrink fitting a cylinder 20 to ribs 15 does not result in an assembly that is ready to be used downhole. Instead, even after shrink fitting the assembly has to be welded. In claim 15 applying heat alone secures the filter element to the base pipe. This does not happen in Layne and welding is further required to get a serviceable filter assembly. The ribs 15 called the “material” in claim 15 do nothing to secure the filter assembly to the base pipe. If they did then welding would not be required. Applying heat to the Layne base pipe will be counterproductive. The filter 20 has to be heated to be fitted to the base pipe and then to shrink onto it. If the base pipe were heated the filter 20 would not go over it. There is no point to heating Layne’s base pipe. If anything it should be chilled to make slipping the filter assembly 20 over it much easier. Claim 15 is not obvious in view of Layne.

Respectfully submitted,

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